Amendments to the Claims

1. (Currently amended):

A method for testing a transmission system, the method comprising:

receiving a time division multiplexed (TDM) stream on an input of the transmission system, wherein the TDM stream comprises a plurality of data fields and a plurality of unused fields;

inserting test data in one or more of the plurality unused fields of the TDM stream;

transferring the TDM stream along a plurality of components of the transmission system including a plurality of time slot interchangers (TSIs);

operating the TSIs to switch the fields of the TDM stream as it is transferred along the plurality of components of the transmission system; and

comparing the test data against the transferred test data.

2. (Original):

The method of claim 1, wherein transferring the TDM stream comprises generating a connection path between the plurality of components of the transmission system.

3. (Original):

The method of claim 2, wherein the connection path is configured to transfer the test data between the plurality of components of the

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4   transmission system using one or more of the plurality unused fields

5   of the TDM stream.

1   4. (Original):

2   The method of claim 3, further comprising storing the transferred

3   test data prior to comparing the test data against the transferred test

4   data.

1   5. (Original):

2   The method of claim 3, further comprising generating an error flag

3   if the test data is different from the transferred test data.

1   6. (Currently amended):

2   A method for testing a digital signal processor (DSP) of a

3   transmission system, the method comprising:

4   receiving a time division multiplexed (TDM) stream on an input

5   of the transmission system, wherein the TDM stream

6   comprises a plurality of data fields and a plurality of unused

7   fields;

8   generating a test signal, wherein the test signal is generated by

9   the DSP

10   inserting the test signal in one or more of the plurality

11   unused fields of the TDM stream;

12   transferring the TDM stream along a plurality of

13   components of the transmission system; and

14   comparing the test signal against the transferred test

15   signal.

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7. (Original):

The method of claim 6, wherein transferring the TDM stream comprises generating a connection path between the plurality of components of the transmission system.

8. (Original):

The method of claim 7, wherein the connection path is configured to transfer the test data between the plurality of components of the transmission system using one or more of the plurality unused fields of the TDM stream.

9. (Original):

The method of claim 7, further comprising generating an error flag if the test signal is different from the transferred test signal.

10. (Currently amended):

A transmission system comprising:

a controller, wherein the controller is operable to set up call connections between interfaces of the transmission system;

a framer block coupled to the controller, wherein the framer block is operable to generate time division multiplexed (TDM) stream having a plurality of data fields and a plurality of unused fields;

a logic circuit coupled to the controller and the framer block, wherein the logic circuit is operable to insert test data in one or more of the plurality of unused fields; and

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12   a plurality of time slot interchangers (TSIs) coupled to the

13   controller and ~~the~~ a field programmable gate array (FPGA),

14   wherein the TSIs are operable to switch the fields of the TDM

15   stream.

1   11. (Original):

2   The transmission system of claim 10, wherein the time slot

3   interchangers are further operable to transfer the test data along

4   components of the transmission system using one or more of the

5   plurality of unused fields.

1   12. (Original):

2   The transmission system of claim 11, wherein the logic circuit

3   comprises a receiver, the receiver operable to store the transferred

4   test data.

1   13. (Original):

2   The transmission system of claim 12, wherein the logic circuit

3   further comprises a comparator, the comparator configured to

4   compare the inserted test data and the transferred test data.

1   14. (Original):

2   The transmission system of claim 13, wherein the logic circuit is

3   further operable to generate an error flag if the inserted test data is

4   different from the transferred test data.

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1   15. (Original):

2   The transmission system of claim 14, wherein the logic circuit

3   comprises a field programmable gate array.

1   16. (New):

2   A transmission system comprising:

3   receiver means for receiving a time division multiplexed (TDM)

4   stream on an input of the transmission system, wherein the

5   TDM stream comprises a plurality of data fields and a

6   plurality of unused fields;

7   logic means coupled to the receiver means, the logic means for

8   inserting test data in one or more of the plurality unused

9   fields of the TDM stream;

10   time slot interchanger (TSI) means coupled to the logic means,

11   the TSI means for transferring the TDM stream along a

12   plurality of components of the transmission system;

13   controller means coupled to the TSI means, the controller means

14   for operating the TSIs to switch the fields of the TDM stream

15   as it is transferred along the plurality of components of the

16   transmission system; and

17   comparator means coupled to the receiver means, the

18   comparator means for comparing the test data against the

19   transferred test data.

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1   17. (New):

2   The transmission system of claim 16, wherein the TSI means is

3   further for generating a connection path between the plurality of

4   components of the transmission system.

1   18. (New):

2   The transmission system of claim 17, wherein the connection path

3   is configured to transfer the test data between the plurality of

4   components of the transmission system using one or more of the

5   plurality unused fields of the TDM stream.

1   19. (New):

2   The transmission system of claim 18, wherein the receiver means is

3   further for storing the transferred test data prior to comparing the test

4   data against the transferred test data.

1   20. (New):

2   The transmission system of claim 18, further comprising error

3   generator means coupled to the receiver means and the logic means,

4   the error generator means for generating an error flag if the test data

5   is different from the transferred test data.

1   21. (New):

2   A transmission system comprising:

3   receiver means for receiving a time division multiplexed (TDM)

4   stream on an input of the transmission system, wherein the

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5   TDM stream comprises a plurality of data fields and a

6   plurality of unused fields;

7   digital signal processor (DSP) means for generating a test signal;

8   logic means coupled to the receiver means and the DSP means,

9   the logic means for inserting the test signal in one or more

10   of the plurality unused fields of the TDM stream;

11   time slot interchanger (TSI) means coupled to the logic means,

12   the TSI means for transferring the TDM stream along a

13   plurality of components of the transmission system; and

14   comparator means coupled to the receiver means, the

15   comparator means for comparing the test signal against the

16   transferred test signal.

1   22. (New):

2   The transmission system of claim 21, wherein the TSI means is

3   further for generating a connection path between the plurality of

4   components of the transmission system.

1   23. (New):

2   The transmission system of claim 22, wherein the connection path

3   is configured to transfer the test data between the plurality of

4   components of the transmission system using one or more of the

5   plurality unused fields of the TDM stream.

1   24. (New):

2   The transmission system of claim 22, further comprising error

3   generator means coupled to the receiver means and the logic means,

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4   the error generator means for generating an error flag if the test

5   signal is different from the transferred test signal.

1   25. (New):

2   A program, embodied in data signals on a computer readable

3   medium, for testing a transmission system, said program comprising:

4   a receiver segment for receiving a time division multiplexed

5   (TDM) stream on an input of the transmission system,

6   wherein the TDM stream comprises a plurality of data fields

              and a plurality of unused fields;

8   a logic segment coupled to the receiver segment, the logic

9   segment for inserting test data in one or more of the

10   plurality unused fields of the TDM stream;

11   a controller segment coupled to time slot interchanger (TSI)

12   means, the controller segment for operating the TSIs to

13   transfer the TDM stream along a plurality of components of

14   the transmission system and to switch the fields of the TDM

15   stream as it is transferred along the plurality of components

16   of the transmission system; and

17   a comparator segment coupled to the receiver segment, the

18   comparator segment for comparing the test data against the

19   transferred test data.

1   26. (New):

2   The transmission system of claim 25, wherein the TSI means is

3   further to generate a connection path between the plurality of

4   components of the transmission system.

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1   27. (New):

2   The transmission system of claim 26, wherein the connection path

3   is configured to transfer the test data between the plurality of

4   components of the transmission system using one or more of the

5   plurality unused fields of the TDM stream.

1   28. (New):

2   The transmission system of claim 27, wherein the receiver segment

3   is further for storing the transferred test data prior to comparing the

4   test data against the transferred test data.

1   29. (New):

2   The transmission system of claim 27, further comprising an error

3   generator segment coupled to the receiver segment and the logic

4   segment, the error generator segment for generating an error flag if

5   the test data is different from the transferred test data.

1   30. (New):

2   A program, embodied in data signals on a computer readable

3   medium, for testing a digital signal processor (DSP) of a transmission

4   system, said program comprising:

5   a receiver segment for receiving a time division multiplexed

6   (TDM) stream on an input of the transmission system,

7   wherein the TDM stream comprises a plurality of data fields

8   and a plurality of unused fields;

9   digital signal processor (DSP) means for generating a test signal;

10   a logic segment coupled to the receiver segment and the DSP

11   means, the logic segment for inserting the test signal in one

12   or more of the plurality unused fields of the TDM stream;

13   a time slot interchanger (TSI) segment coupled to the logic

14   segment, the TSI segment for transferring the TDM stream

15   along a plurality of components of the transmission system;

16   and

17   a comparator segment coupled to the receiver segment, the

18   comparator segment for comparing the test signal against

19   the transferred test signal.

1   31. (New):

2   The transmission system of claim 30, wherein the TSI segment is

3   further for generating a connection path between the plurality of

4   components of the transmission system.

1   32. (New):

2   The transmission system of claim 31, wherein the connection path

3   is configured to transfer the test data between the plurality of

4   components of the transmission system using one or more of the

5   plurality unused fields of the TDM stream.

1   33. (New):

2   The transmission system of claim 31, further comprising an error

3   generator segment coupled to the receiver segment and the logic

4   segment, the error generator segment for generating an error flag if

5   the test signal is different from the transferred test signal.

1   34. (New):

2   A transmission system comprising:

3   a receiver, wherein the receiver is operable to receive a time

4   division multiplexed (TDM) stream on an input of the

5   transmission system, wherein the TDM stream comprises a

6   plurality of data fields and a plurality of unused fields;

7   a digital signal processor (DSP) operable to generate a test

8   signal;

9   a logic circuit coupled to the receiver and the DSP, wherein the

10   logic circuit is operable to insert the test signal in one or

11   more of the plurality unused fields of the TDM stream;

12   a plurality of time slot interchangers (TSIs) coupled to the

13   controller and the logic circuit, wherein the TSIs are operable

14   to transfer the TDM stream along a plurality of components

15   of the transmission system; and

16   a comparator coupled to the receiver and the logic circuit, the

17   comparator operable to compare the test signal against the

18   transferred test signal.

1   35. (New):

2   The transmission system of claim 34, wherein the TSIs are further

3   operable to transfer the test signal along components of the

4   transmission system using one or more of the plurality of unused

5   fields.

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1 36. (New):

2   The transmission system of claim 35, wherein the receiver is

3 further operable to store the test signal.

1 37. (New):

2   The transmission system of claim 36, further comprising a

3 comparator coupled to the receiver and the logic circuit, the

4 comparator operable to compare the test signal against the

5 transferred test signal.

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